WE CLAIM:

1. A method for determining susceptibility or predisposition of a patient to obesity comprising identifying in said patient an amino acid substitution in the neuromedin-β polypeptide or a nucleotide substitution in correspondent encoding gene thereof or quantifying said nucleotide sequence level, wherein substitution of at least one nucleotide sequences in said amino acid or nucleotide sequence or variation of nucleotide sequence level compared to a normal patient, is representative of the predisposition or susceptibility to obesity.

2. The method of claim 1, wherein said nucleotide substitution is replacement of a cytosine by an adenine at position 217 of SEQ ID NO:1.

3. The method of claim 1, wherein said amino acid substitution is replacement of proline by a threonine at position 73 of SEQ ID NO:2.

4. The method of claim 1, wherein said obesity is body fatness, abdominal obesity, or visceral obesity.

5. The method of claim 1, wherein said susceptibility or predisposition of a patient to obesity is representative of disinhibition or susceptibility or predisposition to hunger.

6. A method for diagnosing predisposition or susceptibility to neuromedin-β associated eating behavior disorder comprising the steps of:

a) characterizing sequence or quantity of nucleotide encoding for neuromedin-β or amino acid sequence of neuromedin-β in a biologic sample of a patient; and

b) determining the presence or absence of nucleic or amino acid substitution or the quantity of said nucleic acid sequence in said characterized biological sample of step a);

wherein substitution of at least one nucleotide or amino acid in said nucleotide or amino acid sequence, or variation of quantity of said nucleotide compared to a normal patient, is representative of the predisposition or susceptibility to eating disorders.

7. The method of claim 6, wherein said nucleotide sequence is DNA or a RNA.

8. The method of claim 6, wherein said eating disorder is cognitive dietary restraint, disinhibition and susceptibility to hunger, known characteristics of binge eating disorders, bulimia nervosa, or anorexia nervosa.

9. The method of claim 6, wherein said substitution is corresponding to the substitution of the cytosine by an adenine at position 217 of SEQ ID NO:1.

10. The method of claim 6, wherein said substitution is corresponding to the substitution of a proline by a threonine at position 73 of SEQ ID NO:2.

11. The method of claim 6, wherein said quantity gastric neuromedin β messenger RNA levels ?